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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,529	09/26/2003	Manish Vaishya	2003P14814 US	1198

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EXAMINER

FAULK, DEVONA E

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 05/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/672,529

Applicant(s)

VAISHYA, MANISH

Examiner

Devona E. Faulk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 11/26/2004, with respect to the rejection(s) of claim(s) 1,2,7,11 and 16 under 102(a) and claims 3-6,8-10,12-15,17-20 under 103 (a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Tanaka et al.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1,2,7,11 and 16** are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka et al. (U.S. Patent 5,692,052).

Claims 1 and 11 share common elements.

Regarding **claims 1 and 11**, Tanaka discloses

a speaker (3, Figures 1 and 2);

a controller (2, Figure 1) for generating a control signal that drives a speaker, wherein said signal is based on at least one current vehicle operating condition, a determination of a first sound pressure for each order of sound generated by said engine during a run up of

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said engineer and a determination of a second sound pressure computed for each of a plurality of operating conditions (column 5, line 56- column 6, line 5) of said engine (engine rotating speed and engine load, column 4, lines 13-15), wherein said signal controls each of order of sound generated by said engine independently to drive said speaker to generate an audio output to control said noise (column 3, lines 25-27; column 4, lines 10-23)

and wherein said signal is not fed back to said controller for modification of said signal to thus form an open loop system (Figures 1 and 2).

Claim 11 only differs in that it claims additionally "a determination of a frequency response of a microphone and speaker used in determining first and second sound pressures". Tanaka further teaches of a microphone (11, Figure 14) and speaker (15, Figure 14) and using their frequency response to determine a first and second sound pressure (column 8, lines 38-46).

Regarding claim 2, Tanaka discloses wherein a signal is also based on a frequency response of a microphone (11, Figure 14) and a speaker (15) used in computing said first and second sound pressures (column 8, lines 35-40).

Regarding claims 7 and 16, Tanaka further discloses an amplifier (61 and 62, Figures 15 and 16).

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Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3, 12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (U.S. Patent 5,692,052) in view of Duckworth et al. (U.S. Patent 5,627,529).

Claim 3 claims the system according to claim 1 and claim 12 claims the system according to claim 11, wherein said vehicle operating conditions are obtained by a transceiver. As stated above apropos of claims 1 and 11, Tanaka meets all elements of each claim. Tanaka fails to disclose wherein the vehicle operating conditions are obtained by a transceiver. Duckworth teaches of a vehicle control system including transceiver that obtains vehicles operating conditions from a vehicle databus (See Abstract). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention in order to have the ability to selectively transmit control signals.

6. Regarding claim 20, Tanaka discloses
a speaker (3, Figures 1 and 2));

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a controller (2, Figure 1) for generating a control signal that drives a speaker, wherein said signal is based on at least one current vehicle operating condition, a determination of a first sound pressure for each order of sound generated by said engine during a run up of said engine and a determination of a second sound pressure computer for each of a plurality of operating conditions of said engine (column 5, line 56-column 6, line 5) (engine rotating speed and engine load, column 4, lines 13-15), and a determination of a frequency response of a microphone and speaker used in determining said first and second sound pressures (11, Figure 14; column 8, lines 35-46), wherein said signal controls each of order of sound generated by said engine independently to drive said speaker to generate an audio output to control said noise (column 3, lines 25-27; column 4, lines 10-23),

a sensor for providing a reference signal indicative of a camshaft position, wherein said reference signal is utilized in determining said first pressure (Tanaka teaches that a crank angle signal is input and used; column 9, lines 20-22)

and wherein said signal is not fed back to said controller for modification of said signal to thus form an open loop system (Figures 1 and 2).

Although he teaches on the above named elements, Tanaka fails to disclose a transceiver as claimed. However, the concept of a transceiver for providing said at least one current vehicle operating condition to a controller was well known in the art as taught by Duckworth. Duckworth teaches of a vehicle control system including

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transceiver as claimed (See Abstract) (column 3, lines 1-34).

Thus, it would have been obvious to one of ordinary skill in the art to have a transceiver for providing at least one current vehicle operating condition as taught by Duckworth in order to have the ability to selectively transmit control signals.

7. **Claims 4,5,13 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (U.S. Patent 5,692,052) in view of Todter et al. (U.S. Patent 5,937,070).

Claim 4 claims system of claim 1 and **claim 13** claims the system of claim 11, wherein said signal includes a gain factor for attenuating sound. As stated above apropos of claims 1 and 11, Tanaka meets all elements of each claim. Tanaka fails to disclose that the signal includes a gain factor for attenuating sound. Attenuating sound is well known in the art. Todter discloses a noise canceling system wherein a signal includes a gain factor for attenuating sound (column 12, lines 26-30). Thus it would have been obvious to one of ordinary skill in the art to use Todter's concept of a signal including a gain factor for attenuating sound for the benefit of maintaining a positive phase margin.

Claim 5 claims the system of claim 1 and **claim 14** claims the system of claim 11, wherein said signal includes applying a gain factor for enhancing said sound. As stated above apropos of claims 1 and 11, Tanaka meets all elements of each claim. Tanaka fails to disclose that the signal includes a gain factor for attenuating sound. Attenuating sound is well known in the art. Todter discloses a

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feedforward noise canceling system (Figures 1 and 2A; column 12, lines 9-13) wherein a signal includes a gain factor for enhancing sound (gain adjusted sufficiently high implies that there is some gain factor, column 12, lines 22-26). Thus it would have been obvious to one of ordinary skill in the art to use Todter's concept of a signal including a gain factor for attenuating sound for the benefit of maintaining a positive phase margin.

8. Claims 6, 10, 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (U.S. Patent 5,692,052) in view of Kinoshite et al. (U.S. Patent 5,245,664).

Claim 6 claims the system of claim 1 and claim 15 claims the system of claim 11, wherein said signal includes a correction factor for each of said operating conditions. As stated above apropos of claims 1 and 11, Tanaka meets all elements of each claim. Tanaka fails to disclose that the signal includes a correction factor as claimed. Kinoshite discloses the concept of a signal including a correction factor for an operating condition (column 5, line 66-column 6, line 25). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have the signal include a correction factor as taught by Kinoshite in order to account for any differences between various signals.

Claim 10 claims the system of claim 1 and Claim 19 claims the system of claim 11 further including a time delay between said engine operating conditions. As stated above apropos of claims 1 and 11, Tanaka meets all elements of each claim. Tanaka fails to disclose a

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delay between said engine operating conditions. Kinoshite discloses the concept of including a time delay between said engine operating conditions (column 6, lines 15-25). Thus it would have been obvious to include a time delay between said engine operating conditions as taught by Kinoshite in order to account for any differences in signal propagation times.

9. **Claims 8 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (U.S. Patent 5,692,052) in view of Cairns (U.S. Patent Application 2002/0097884).

Claim 8 claims the system of **claim 1** and **claim 17** claims the system of claim 11, wherein said controller decomposes said first and second sound pressures and generates look-up tables. As stated above apropos of claims 1 and 11, Tanaka meets all elements of each claim. Tanaka further teaches of a controller decomposing sound pressures (column 4, lines 10-23). Tanaka fails to disclose generating lookup tables. Cairns teaches of a variable noise reduction based on vehicle conditions including generating look-up tables (paragraph 15). Thus it would have been obvious to one of ordinary skill to generate look-up tables as taught by Cairns in order to have data readily available.

10. **Claims 9 and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (U.S. Patent 5,692,052) in view of Pfaff ((EP 0479 367 A2) in further view of Kuo (U.S. Patent 5,940,519).

Claim 9 claims the system of claim 1 and **Claim 18** claims the system of claim 11, wherein said controller utilizes an algorithm that

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uses a Nyquist criterion. As stated above apropos of claims 1 and 11, Tanaka meets all elements of each claim. Tanaka fails to disclose that the controller utilizes an algorithm that uses a Nyquist criterion. Pfaff teaches of using algorithms, but fails to specify using a Nyquist criterion (page 7, lines 6-18). Kuo discloses an active noise control system that utilizes an algorithm that uses a Nyquist criterion (column 10, line 61- column 11, line 18). The Nyquist frequency and theorem are well known in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to use an algorithm that uses a Nyquist criterion as taught by Pfaff and Kuo in order to prevent aliasing.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,363,156 to Roddy discloses an integrated communication system for a vehicle.

U.S. Patent 6,449,369 to Carme et al. discloses a method and device for hybrid active attenuation of vibration, particularly of mechanical, acoustic or similar vibration.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In

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the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devona E. Faulk whose telephone number is 571-272-7515. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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SUPERVISORY PATENT EXAMINER

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